Novel Radio Detector Based Upon Measuring the Amount of Energy Required to Undo Random Magnetic Perturbations within Ferrous 3-D Grid for Room-Temperature Magnetometer Function Comparable to Cold Rubidium Vapor-Based Systems

31 October 2023
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(Rev. 1 Nov. 2023 to correct typographical error)

Introduction

Radio detectors based upon designs not including cold rubidium vapor struggle to approach the level of performance of such detectors as a result of rubidium's advantage of having electrons with extremely high inertia combined with the added boost to inertia resulting from the internal dynamics of the nucleus of the rubidium atom (which generates a positive neutrino field as a result of its mode of oscillation, ibid.) This inertia enables the valence electron to maintain its altered spin state for a sufficient length of time for its altered orientation to translate into surrounding materials (usually gold.)

Other materials, including room temperature materials, it is generally accepted, cannot be used in the same manner. Conventional antennae work on an entire different principle of converting EM into electrical current. Somewhere between these two approaches is a middle ground that can offer the same sensitivity of a rubidium magnetometer using low-cost materials operated at room temperature.

Abstract

Two and three-dimensional arrays may be configured composed of nodes consisting simply of ferrous materials deposited in a grid configuration within a space were hydrogen nanowires run in parallel with the nodes of this grid, a magnetically-transparent, electrically insulative material separating the ferrous and hydrogen components. The hydrogen nanowires would carry light along them in order to reset the magnetic orientation of the ferrous nodes.

The default state of the grid would be for each two-dimensional layer to consist of ferrous nodes with magnetic orientations that are 90-degrees offset, a configuration which would result in zero net magnetism being detectable from the perimeter of any given layer at the end of a row or column of nodes.

Light would be pulsed at an extremely high rate in order to continually reset the magnetic configuration of the nodes until zero magnetism is detectable at the end of the rows and columns. The light utilized to achieve this would require electrical energy which would be derived from capacitors the remaining charge of which could be measured with high frequency and precision via the measurement of the distortion of the polarity of a beam of light made to pass in

close proximity to the capacitors (ibid. the paper concerning the method for reading data from an SSD without draining voltage.)

In this way, the combined magnetic perturbation of millions of nodes may be indirectly measured according to their aggregated magnetic perturbation which, although chaotic, is measurable via the careful observation of the elements of when and to what extent energy is required in order to restore their balanced state.

Conclusion

As this design is low-cost and functions at room temperature, provided sufficiently fast switching of the nanowire components and the voltage-metric components, individual radio waves could be measured by a system that attempts to bestow a balanced, alternating magnetic configuration within a ferrous grid several times in the length of time it takes a single microwave wavelength to pass through the detector.